

Appln No. 09/703,264

Amdt date November 30, 2005

Reply to Office action of August 30, 2005

REMARKS/ARGUMENTS

Claims 1 - 39 are pending in this application. The independent claims 1, 11, 22, 33, and 37 are amended.

Claims 1 - 32 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. In view of the amendments to claims 1, 11, and 22, it is respectfully requested that the above rejection is reconsidered.

Claims 1 - 3, 6, 8 - 10, 33, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eppler Jr. et al (US 5,600,714), in view of Finn (5,706,344). Claims 4, 35, and 39 are rejected over Eppler and Finn and further in view of Sih (5,732,134). Claim 5 is rejected over Eppler and Finn and further in view of Sellenslagh et al. (3,433,898). Claims 7, 34, and 38 are rejected over Eppler and Finn and further in view of Hasegawa (5,905,717). Applicants submit that all of the pending claims are patentable over the cited references and reconsideration of the rejections and allowance of the claims are requested.

Amended claim 1 includes, among other limitations, an "adaptive filter having filter coefficients adapted to cancel an electrical and an acoustical echo in a near end signal in parallel." (Emphasis added). None of the references cited by

Appln No. 09/703,264

Amdt date November 30, 2005

Reply to Office action of August 30, 2005

the Office Action, alone or in combination, teach or suggest the above limitation.

Eppler is directed to a speaker telephone for use with a two-wire telephone system. Figure 1 of Eppler depicts using a line hybrid (electrical) echo canceller 46 in series with an additional room acoustic echo canceller 24. The hybrid echo canceller 46 approximates the complex impedance of the telephone system and produces a cancellation signal. (Eppler, column 2, lines 60-70). The acoustic echo canceller 24 is the one cited by the Office Action against claim 1 (Office Action, page 3, item 5) and is utilized for canceling acoustical echoes in the room when the speaker telephone 10 is being used. (Eppler, column 7, lines 17 - 20).

The Office Action acknowledges that Eppler uses two different echo cancellers, acoustic 24 and hybrid 46, for canceling the two types of echoes. (Office Action, page 5). However, the Office Action alleges that "any electrical echo that is not cancelled by canceller 46 will propagate through to canceller 24 [and as a result] the echo estimate generated by canceller 24 will be a function of the electrical echo [path]" as well. (Office Action, page 5).

First, even the Office Action assumption that any electrical echo not canceled by the hybrid echo canceller 46

Appln No. 09/703,264

Amdt date November 30, 2005

Reply to Office action of August 30, 2005

propagates to the acoustic echo canceller 24, confirms that echo cancellers 46 and 24 operate in series and not in parallel.

Second, each of the electrical and acoustic echo cancellers 46, 24 of Eppler has its own set of coefficients that is adapted or trained for estimating and canceling either the electrical or the acoustical echo. (See, e.g., Eppler, column 7, lines 54 - 64). As a result, the coefficients of the acoustic echo canceller 24 are not adapted for estimating and canceling electrical echoes. Consequently, the acoustic echo canceller 24 does not cancel both types of echoes in parallel. Therefore, there is no disclosure or suggestions in Eppler of "filter coefficients adapted to cancel an electrical and an acoustical echo in parallel in a near end signal" as recited in amended claim 1. (Emphasis added).

Finn, the second reference, is directed to echo cancellation in a single-channel intercom systems and uses an adaptive filter to cancel acoustic echoes from being transmitted through the system. (Finn, Abstract) Finn does not mention electrical echoes or electrical echo cancellation. Accordingly, Finn does not teach or suggest an "adaptive filter having filter coefficients adapted to cancel an electrical and an acoustical echo." (Emphasis added). Consequently, Finn does not disclose or suggest canceling electrical and acoustical echoes "in

Appln No. 09/703,264

Amdt date November 30, 2005

Reply to Office action of August 30, 2005

parallel" either. Finn, therefore, does not cure the deficiency of Eppler.

In short, Eppler and Finn, alone or in combination do not teach or suggest "filter coefficients adapted to cancel an electrical and an acoustical echo in parallel in a near end signal" as recited by amended claim 1. And, amended claim 1 remains patentable over Eppler and Finn alone or in combination.

Independent claim 11 is patentable over Eppler and Finn, alone or in combination, because those references do not teach or suggest "filter coefficients adapted to cancel the acoustic echo and the electrical echo in parallel" as recited in amended claim 11.

Independent claim 22 is patentable over Eppler and Finn, alone or in combination, because these references do not teach or suggest "filter coefficients adapted to cancel the acoustic echo and the electrical echo in parallel" as recited in amended claim 22.

Independent claim 33 is patentable over Eppler and Finn, alone or in combination, because these references do not teach or suggest "using filter coefficients adapted for canceling an acoustic echo and an electrical echo in parallel" as recited in amended claim 33.

Independent claim 37 is patentable over Eppler and Finn, alone or in combination, because these references do not teach

Appln No. 09/703,264

Amdt date November 30, 2005

Reply to Office action of August 30, 2005

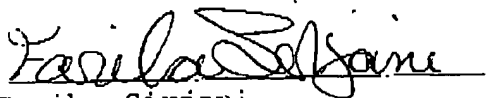
or suggest "filtering means having filter coefficients to cancel an acoustic echo and an electrical echo in parallel" as recited in amended claim 37.

The remaining claims 2-10, 12-21, 23-32, 34-36, and 38-39 depend from the allowable independent claims directly or indirectly and were rejected over Eppler and Finn or Eppler and Finn in combination with a third reference. These dependent claims include all of the limitations of the claims from which they depend and additional limitations therein. Accordingly, these claims are allowable over the cited references for the same reasons that their independent base claims are allowable and for the additional limitations they include. Applicants respectfully request reconsideration of the rejections and allowance of these claims.

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is now in condition for allowance, and accordingly, reconsideration and allowance are respectfully requested.

Respectfully submitted,

CHRISTIE, PARKER & HALE, LLP

By 
Fariba Sirjani
Reg. No. 47,947
626/795-9900

CAH PAS649010.3--11/30/05 9:31 AM